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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,405	09/01/2004	Albrecht Kraus	DE 020055	3399

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EXAMINER

WALFORD, NATALIE K

ART UNIT	PAPER NUMBER
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2879

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/506,405

Applicant(s)

KRAUS ET AL.

Examiner

Natalie K. Walford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

The Amendment, filed on January 25, 2007, has been entered and acknowledged by the Examiner. Claims 1-15 are pending in the instant application. The Examiner notes that no mention of canceling claim 15 was made in Applicant's Remarks. However, claim 15 is not in the listing of claims. For examination purposes, the Examiner will assume the Applicant made the mistake of not including it and claim 15 will be examined. Furthermore, claim 14 is considered "previously presented" and not "new" in the listing of the claims. Applicant should clarify the record in response to this Office Action.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the field emitter, metal brazing layer, organic adhesion layer, and thermionic electron emitter must be shown or the feature(s) canceled from the claim(s) (specifically claims 4-7). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

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must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bachmann et al. (US PUB 2002/0048344).

Regarding claim 8, Bachmann discloses a method of manufacturing a foil (item 1) for a light source in figure 1, characterized by the following process steps: carbon atoms (paragraph 29) are deposited on a substrate (not shown) so as to form a diamond foil (item 1), and a portion (not shown) of the substrate is etched away such that a remaining portion of the substrate forms a frame (paragraph 29) for the diamond foil.

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Regarding claim 9, Bachmann discloses a method of manufacturing a foil (item 1) for a light source in figure 1, characterized by the following process steps: carbon atoms (paragraph 29) are deposited on a substrate (not shown) so as to form a diamond foil (item 1), the diamond foil is removed from the substrate (paragraph 29), and the diamond foil is brazed to a frame (paragraph 29).

Regarding claim 10, Bachmann discloses a method of manufacturing a foil (item 1) for a light source in figure 1, characterized by the following process steps: carbon atoms (paragraph 29) are deposited on a substrate (not shown) so as to form a diamond foil (item 1), the diamond foil is removed from the substrate (paragraph 29), and the diamond foil is adhered to a frame (paragraph 29).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wieser et al. (US 6,052,401) in view of Bachmann et al. (US PUBN 2002/0048344).

Regarding claim 1, Wieser discloses a light source in figure 1 comprising a discharge vessel (item 10) which is filled with a filling gas (column 3, lines 12-31), and with an electron beam source (item 62) arranged in vacuum or in a region of low pressure (column 7, lines 42-44), which source generates electrons (item 70) and propels them through an inlet foil (item 16)

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into the discharge vessel, but does not expressly disclose that inlet foil comprises a diamond layer, as claimed by Applicant. Bachmann is cited to show a light source in figure 2 with an inlet foil (item 101) that is made from diamond (paragraph 32). Bachmann teaches that by using a diamond layer that the area around the diamond foil has greater rigidity and will absorb heat stresses caused from manufacturing (paragraph 31).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wieser's invention to include the inlet foil comprises a diamond layer as suggested by Bachmann for having greater rigidity in the device.

Regarding claim 2, the combined reference of Wieser and Bachmann disclose a light source as claimed in claim 1, characterized in that the diamond layer has a thickness below 100 μm (Wieser; column 6, lines 20-22 and Bachmann; paragraph 32).

Regarding claim 3, the combined reference of Wieser and Bachmann disclose a light source as claimed in claim 1, characterized in that the diamond layer has a frame (Wieser, item 18).

Regarding claim 4, the combined reference of Wieser and Bachmann disclose a light source as claimed in claim 1, characterized in that the diamond layer has a metal brazing layer (Bachmann; item 102).

Regarding claim 5, the combined reference of Wieser and Bachmann disclose a light source as claimed in claim 1, characterized in that the diamond layer has an organic adhesion layer (Bachmann; item 102).

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Regarding claim 6, the combined reference of Wieser and Bachmann disclose a light source as claimed in claim 1, characterized in that the electron beam source comprises a thermionic electron emitter (Wieser; item 62).

Regarding claim 7, the combined reference of Wieser and Bachmann disclose a light source as claimed in claim 1, characterized in that the electron beam source comprises a field emitter (Wieser; item 62).

Regarding claim 11, Wieser discloses a gas discharge lamp comprising a discharge vessel (item 10) in figure 1, which is filled with a filling gas (column 3, lines 12-31), which vessel is adapted to produce non-coherent visible light from at least one wall in response to received radiation produced by the gas; an inlet foil (item 16); an electron beam source (item 62) arranged in vacuum or in a region of low pressure (column 7, lines 42-44), which source generates electrons (item 70) and propels them through the inlet foil into the discharge vessel, causing the gas to produce the radiation (see FIG. 1), but does not expressly disclose that the inlet foil comprises a diamond layer, as claimed by Applicant. The Examiner notes that it has been held that the recitation than an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. Bachmann is cited to show a light source in figure 2 with an inlet foil (item 101) that is made from diamond (paragraph 32). Bachmann teaches that by using a diamond layer that the area around the diamond foil has greater rigidity and will absorb heat stresses caused from manufacturing (paragraph 31).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wieser's invention to include the inlet foil comprises a diamond layer as suggested by Bachmann for having greater rigidity in the device.

Regarding claim 12, Wieser discloses a method of manufacturing a light source in figure 1, comprising, not necessarily in the following order, providing a discharge vessel (item 10) which is filled with a filling gas (column 3, lines 12-31), which vessel is adapted to produce non-coherent visible light from at least one wall in response to received radiation produced by the gas, an electron beam source (item 62) arranged in vacuum or in a region of low pressure (column 7, lines 42-44), which source generates electrons (item 70) and propels them into the discharge vessel, causing the gas to produce the radiation; inserting an inlet foil (item 16) between the source and the vessel, but does not expressly disclose that the inlet foil comprises a diamond layer, as claimed by Applicant. The Examiner notes that it has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. Bachmann is cited to show a light source in figure 2 with an inlet foil (item 101) that is made from diamond (paragraph 32). Bachmann teaches that by using a diamond layer that the area around the diamond foil has greater rigidity and will absorb heat stresses caused from manufacturing (paragraph 31).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wieser's invention to include the inlet foil comprises a diamond layer as suggested by Bachmann for having greater rigidity in the device.

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Regarding claim 13, the combined reference of Wieser and Bachmann disclose the method of claim 12, wherein the light source is a gas discharge lamp (Wieser; column 10, lines 8-47).

Regarding claim 14, the combined reference of Wieser and Bachmann disclose the light source of claim 2, wherein the diamond layer has a thickness below 50 μm (Wieser; column 6, lines 20-22 and Bachmann; paragraph 32).

Regarding claim 15, the combined reference of Wieser and Bachmann disclose the light source of claim 2, wherein the diamond layer has a thickness below 20 μm (Wieser; column 6, lines 20-22 and Bachmann; paragraph 32).

Response to Arguments

Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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